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# **OFFICE OF THE ASSOCIATE ADMINISTRATOR FOR RESEARCH AND ACQUISITIONS**

## **PERFORMANCE PLAN FOR FISCAL YEAR 2000**

Please visit our public web site:

<http://www.faa.gov/ara/perform/index.html>

For employees who have access to the FAA internal web site:

<http://interweb.faa.gov/ara/perform/>

U.S. Department of Transportation  
Federal Aviation Administration

October 1, 1999

Fellow ARA Employees:

I am pleased to present the FY 2000 ARA Performance Plan. This year's plan includes eight organizational goals that we will pursue in the coming years. Our goals support the FAA mission goals of Safety, Security, and System Efficiency. Our plan also anticipates future challenges by including enabling goals to improve the way we do business.

As you know, our Performance Plan is an important document. For ARA organizations, it will be used to guide the development of lower level goals and objectives. For employees, the plan contains long-term objectives and near-term implementation plans that should guide development of individual performance plans and daily decision-making. The plan also provides the strategic framework for employee training and development priorities.

For our customers and partners, the ARA Performance Plan represents our commitment to provide products and services that meet the current and future needs of the FAA, the aerospace industry, and the flying public. The plan provides all of our stakeholders with a tool they can use to measure our success as an organization.

Many thanks to the people who helped develop this plan, and to all the ARA employees whose dedication and expertise will make it a reality.

Sincerely,

Steven Zaidman  
Associate Administrator for Research and Acquisitions

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# Introduction

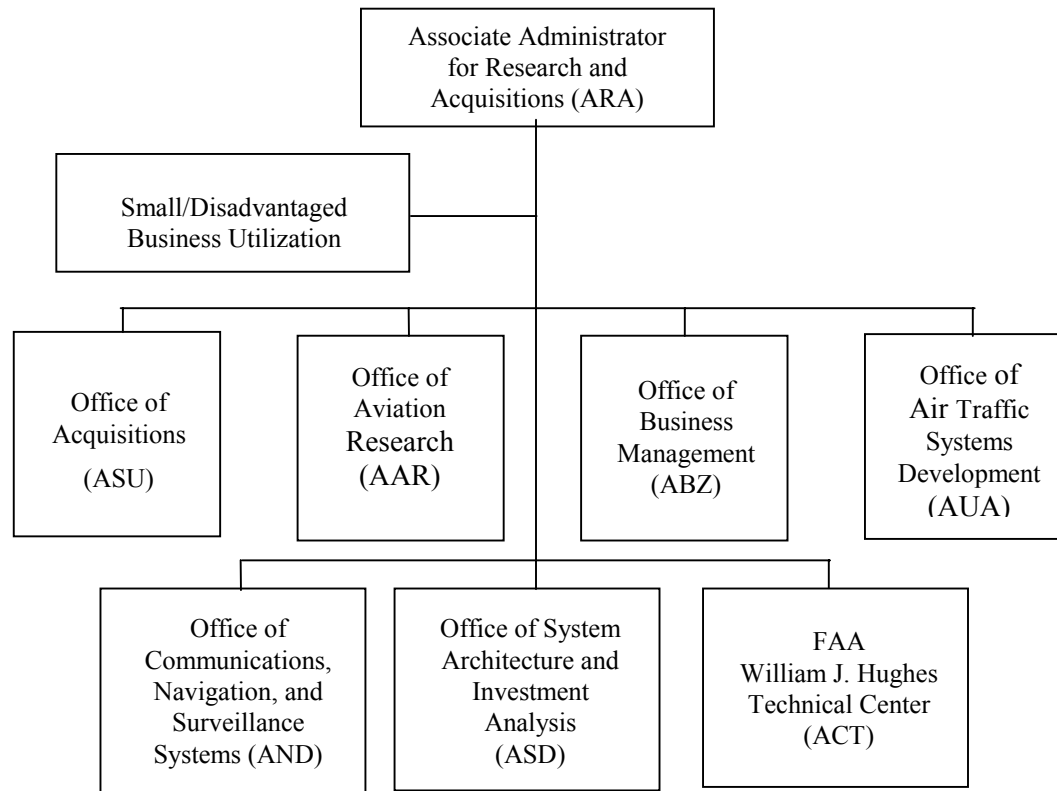
The Federal Aviation Administration (FAA) has the responsibility for providing a safe, secure, and efficient global aviation system that meets the needs of a wide range of customers. Within the FAA, six primary lines of business and a number of staff offices work together to ensure that the agency meets its responsibilities and provides the safest, most efficient and responsive aviation system in the world.

The Office of the Associate Administrator for Research and Acquisitions (ARA) is the FAA line of business entrusted with the primary responsibility of ensuring that the FAA has the research and technology base needed to provide a safe, secure, and efficient National Airspace System (NAS)

today, and in the future. ARA has a budget of approximately \$1.4 billion, a workforce of approximately 2,000 and is organized as shown below in Figure 1.

Accomplishment of the eight performance goals outlined in this plan range from Fiscal Year (FY) 2000 – 2007. However, the strategies and activities within the goals largely represent ARA's priorities in FY 2000. ARA holds itself accountable for these outcomes by linking compensation decisions directly to the organization's success in meeting its annual objectives and making progress toward the long-term goals.

**Figure 1: ARA Organization**



## ARA's Workforce

ARA's success in achieving its performance goals is primarily contingent upon its ability to attract and retain a world-class workforce whose members continually develop and expand their knowledge and skills through formal and informal learning opportunities. To support the workforce in this endeavor, ARA will continue its transformation to a competency-based, learning organization. A strong ARA workforce is essential to the FAA's success in providing exceptional products and services to its customers, when they need them, and at an affordable price. Two of the performance goals in this plan, identified as enabling goals, are directly related to strengthening the management processes and organizational culture that support the effective performance of ARA's employees.

Currently, ARA's workforce consists of approximately 2,000 engineering, managerial, technical, scientific, professional, and administrative personnel

located in Washington, D.C., and the William J. Hughes Technical Center near Atlantic City, New Jersey. This dedicated staff supports all aspects of aviation from basic research to the development of new products for aviation safety inspectors, aviation security inspectors, and air traffic controllers. It also includes critical research, test and evaluation, and NAS support activities, to assist ARA and other organizations both within and outside of the FAA.

Approximately one-half of ARA's workforce, composed of employees from throughout the organization, works directly in partnership with members from FAA's operational lines of business as part of Integrated Product Teams (IPT's). These IPT's were created to increase the effectiveness and efficiency of FAA's efforts to modernize the civil aviation system.

## ARA's Services

ARA is a technically diverse organization providing a range of services, either directly or in partnership with other FAA

organizations. Within the FAA, ARA is responsible for providing leadership in the delivery of the following nine services:

ARA's Services	
Service Area	Description of Functions and Products
Lifecycle Acquisition Management	Acquisition of NAS program products, development of the NAS Architecture, systems engineering support, investment analyses, operations research support, program management, and program evaluation.
Research and Development (R&D)	Research program planning, R&D program management, execution of research programs, and coordination of national and international research efforts across U.S. and foreign government, academic, and industrial organizations.
Acquisition Policy	Services and functions related to the role of FAA's Acquisition Executive including: development, dissemination, and training in acquisition and procurement policy.
Contracting	Contract award and management support for FAA and other government organizations; and procurement quality assurance.
Information Technology (IT) Services	Mainframe computing services, enterprise network, electronic messaging and internet connectivity design, implementation and operational support, user desktop support (Help Desk) services, and management of IT support services contracts.
Information Security	Vulnerability assessments and penetration tests, basic security awareness training, and system engineering support.
Budgeting	Technical assistance and coordination of budget planning and development activities related to FAA's Facilities and Equipment (F&E) and Research Engineering, and Development (R,E&D) appropriations.
Facility Operation	The full range of planning, operations, and maintenance activities for FAA's headquarters Federal Office Building (FOB) 10A and the William J. Hughes Technical Center.
Small Business Outreach/ Monitoring	Development and implementation of the policies and outreach activities that form the FAA's small business program (e.g., supporting small business conferences, forums, and seminars).

# ARA's Partners and Customers

## Partners

In delivering a number of its services, ARA works in partnership with other organizations such as Air Traffic Services (ATS), Regulation and Certification (AVR), Civil Aviation Security (ACS), Airports (ARP), and the Office of International Aviation (AIA). These partnerships provide FAA services and products directly to external customers and are particularly important for successful delivery of ARA's two core services:

- Lifecycle acquisition management
- Research and development

ARA's primary contribution in these partnerships is to provide the scientific, engineering, and management expertise needed to acquire or develop the

technology, systems, and research data that support efficient delivery of FAA services (e.g., air traffic control, civil aviation security, development of avionics' standards, and development and enforcement of aviation regulations). ARA's partners in these service areas contribute the operational expertise needed to ensure successful product development, deployment, and maintenance.

The performance goals and indicators for service areas in which ARA works collaboratively with FAA's operational lines of business are designed to measure ARA's contributions to these partnerships. The ARA performance goals in these areas directly support the FAA's performance goals for safety, security, and efficiency of civil aviation system operations.

## Customers

Many of ARA's internal FAA partners in the lifecycle acquisition management and R&D areas are also direct users of other ARA services such as budgeting support on F&E and R,E&D programs, facility operations, or contracting support. In fact, the entire FAA receives some of ARA's services such as information technology, contracting, and facility operations services.

ARA also has a limited number of direct, external customers, including the Department of Transportation (DOT), the

Department of Defense (DOD), the aviation industry, and small businesses. Both DOT and DOD are customers that use FAA's contracting services. The aviation industry is a customer for FAA R&D products including formal technology transfer programs. Small businesses and small businesses owned and controlled by socially and economically disadvantaged individuals (SEDB's) are customers for outreach programs developed and administered by ARA. These programs support FAA and DOT goals for economic growth in the small business communities.

## The Challenge to FAA and ARA

Over the next decade, air travel in the United States is expected to increase by 40 percent, from 600 to 850 million passengers per year. Furthermore, the transition to a satellite-based communications, navigation, and surveillance system will hasten the globalization of the aviation industry. The evolution toward increased operational demand, the diversity of aircraft, changing technology, and the globalization of the airline industry will challenge the FAA and

ARA to maximize safety, while increasing the capacity and efficiency of the nation's aviation system.

Another fact of life for ARA is that even as the need to serve the flying public grows, our personnel and financial resources will continue to be stretched.

# ARA's Mission and Vision

## ARA Mission

To provide research, development, and acquisition for products and services that enable the FAA to enhance the safety and security of the National Airspace System (NAS) and satisfy current and future operational needs of the U.S. civil aerospace system for national and international operations.

## ARA Vision

To be a world class acquisition and technology organization, universally recognized as the leader and expert in system acquisition, research, and application of aerospace technologies. This is achieved by working together as a positively motivated, diverse, involved, and informed workforce.

To support the accomplishment of this vision, ARA is committed to continuing the implementation and development of the Acquisition Management System (AMS). We will continue to strive for reductions in acquisition cycle time and costs. In support of the AMS, ARA is undertaking a major effort to capitalize on the FAA's personnel reform opportunities to pilot innovative human resource programs. These programs are designed to transition ARA's workforce to the new environment and increase the level of ARA's human intellectual capital.

We have already begun to be a results-based organization and have implemented, as a pilot for FAA, major reform of our personnel compensation system.

Our organization is committed to working with the other lines of business to continue with the implementation of the Integrated Product Development System (IPDS). The IPDS uses IPT's to promote a collaboration of disciplines from across FAA to integrate and concurrently apply necessary processes and expertise needed to speed the delivery

of products and services that satisfy our customers' requirements.

The effect of all of our initiatives, whether in personnel reform, acquisition reform, or resource management, will be significant. We are changing the way we do business

and we are changing our organizational culture. We are doing this in order to build the kind of organization that can provide the services and technology that will best serve our customers, the flying public, the aviation industry, and our nation.

## **ARA's PERFORMANCE GOALS**

The eight performance goals described on the following pages represent the results ARA will achieve in implementing the vision developed by the ARA Management Team. The performance goals are organized according to the following Performance Areas, which in turn support higher level FAA and DOT planning and performance documents.

- Safety
- Security
- System Efficiency
- Enabling Goals

## PERFORMANCE AREA: SAFETY

FAA's performance goal for Safety is **"By 2007, reduce the U.S. aviation fatal accident rate per aircraft departure, as measured by a three-year moving average, by 80 percent from the three-year average for 1994-96."** The agency will employ broad strategies to prevent aviation accidents such as addressing recurrent causes, sharing safety information, and improving certification and surveillance. Key corporate projects in the Safety Performance Area include Safer Skies, Safe Flight 21, Global Positioning System (GPS) Implementation, and NAS Modernization Safety Assessment. ARA has two safety goals: Aviation Safety and Human Factors.

### ❶ Aviation Safety

**In support of FAA's mission goal related to system safety, ARA will:**

Contribute to the FAA goal to reduce the fatal aviation accident rate 80% by 2007 as compared to the 1994-1996 baseline data.

**Progress toward this performance goal will be measured by:**

- The average percent reduction in identifiable causes of fatal accidents. Reductions will be measured relative to specific baseline rates developed for each causal factor being studied.

- The percent reduction in a rolling 3-year average fatal accident rate.

**The strategies ARA will pursue to accomplish this goal include:**

- Identify, develop, and conduct research to improve methods, procedures, and technologies to reduce fatal accident rates due to aircraft structural, mechanical, propulsion, and systems failures.
- Identify, develop, and conduct research to improve methods, procedures, and technologies to reduce fatal accident rates due to operational hazards.

- Identify, develop, and conduct research to improve methods, procedures, and technologies to enhance human performance in aviation operations.
- Identify, develop, and conduct research to improve methods, procedures, and technologies to increase aviation accident survivability.

## ② Human Factors

**In support of FAA's mission goal related to system safety, ARA will:**

By 2005, ensure human factors policies, processes, and best practices are integrated in the research and acquisition of 100 percent of FAA aviation systems and applications.

**Progress toward this performance goal will be measured by:**

- The percentage of systems and applications that satisfy human factors policies, processes, and best practices.

**The strategies ARA will pursue to accomplish this goal include:**

- Conduct human factors research to provide the knowledge base and foundation for the integration of human factors into acquisition of FAA systems and applications.
- Apply human factors policies, processes, and best practices through engineering activities and assessments to ensure human factors are integrated in FAA acquisitions and applications.

## PERFORMANCE AREA: SECURITY

The FAA performance goal for Security is to “**Prevent security incidents in the aviation system.**” To reach this goal the FAA will focus on improving explosive device and weapons detection, compliance with security requirements, and minimizing risk and vulnerability at airports and airway facilities. ARA has two goals that support this performance area: information security and aviation system security.

### ③ Information Security

**In support of FAA’s mission goal related to security, ARA will:**

By 2005, implement the information security measures in 100% of the ARA-deployed systems necessary to protect critical functions of the NAS from disruptive cyber attacks.

**Progress toward this performance goal will be measured by:**

- Percent of certified (interim or full) ARA-deployed systems in the NAS.

**The strategies ARA will pursue to accomplish this goal include:**

- In partnership with internal and external organizations, develop a baseline Information System Security (ISS) architecture that reflects NAS-level requirements.
- Deploy current ARA systems (post-Joint Resource Council (JRC)-2) that satisfy existing ISS requirements in accordance with approved program baseline.
- Deploy future ARA systems (pre-JRC-2) that satisfy evolving FAA ISS policy, NAS requirements, and ISS architecture.

## **④Aviation Security**

**In support of FAA's mission goal related to security, ARA will:**

Improve threat detection and aircraft survivability by identifying, developing, and deploying equipment capable of performing in an operational environment to achieve the FAA defined level of security through 2005.

**Progress toward this performance goal will be measured by:**

- The ratio of bags, cargo, and people screened with new technologies to the total screened by all methods.
- The level of threat detection for bags, cargo, and people.

**The strategies ARA will pursue to accomplish this goal include:**

- In partnership with industry, government agencies, and academia, identify, develop, and improve technologies that will provide the capability to counter defined threats to civil aviation security.
- Purchase and deploy advanced security equipment effectively in partnership with the Aviation industry and in accordance with criteria established by the Presidential Commission on Aviation Safety and Security and the Associate Administrator for Civil Aviation Security.

## PERFORMANCE AREA: SYSTEM EFFICIENCY

The FAA's performance goal in the area of system efficiency is to **"Provide an aerospace transportation system that meets the needs of users and is efficient in the application of FAA and aerospace resources."** The FAA Strategic Plan Performance Goal that directly affects ARA in this performance area is to reduce the rates of volume- and equipment-related delays by 20 percent from the 1994 baseline by the year 2000. To achieve this, the agency will focus on Free Flight, NAS Modernization, and Systems Integration. ARA's contribution to this agency goal is established in its NAS Modernization goal.

### ⑤ NAS Modernization

**In support of FAA's mission goal related to system efficiency, ARA will:**

Develop and deploy those capabilities/systems needed to sustain existing NAS infrastructure and to increase the safety, capacity, and efficiency of the NAS as defined by the NAS Architecture.

**Progress toward this performance goal will be measured by:**

- Percent of targeted systems from the list of sustain systems deployed by ARA to preserve/sustain mission critical capabilities.
- Percent of targeted systems from the list of new capability systems deployed by

ARA to support new capabilities for NAS Enhancement.

**The strategies ARA will pursue to accomplish this goal include:**

- Institutionalize lifecycle acquisition organization concepts and an effective, efficient and flexible acquisition management system.
- Deploy systems that sustain current capability and support new capabilities for NAS enhancement according to approved acquisition program baselines.
- For systems approaching JRC-2 (mid-term deployment), develop, in coordination with internal and external stakeholders, a process for Integrated Schedule Management (ISM) where

every requirement for delivery of service/system has a resource-loaded schedule with interim milestones and associated measures of success.

- For longer term deployment, ensure that there is an R,E&D plan and strategy

consistent with the NAS Architecture and coordinated with the Air Traffic Management (ATM) Interagency IPT; and ensure R&D explores possible new concepts/opportunities for utilizing the National Airspace System.

## **PERFORMANCE AREA: ENABLING GOALS**

There are four **enabling goals** in the FAA Strategic Plan that are critical to accomplishing the FAA mission. FAA cannot help achieve a safe, secure, efficient aerospace system without a well-trained, well-managed, diverse work force working to its full capabilities. Reform of the FAA's personnel, acquisition, and financial systems is absolutely essential to making the kinds of improvements needed to satisfy the public. ARA supports two of the FAA's enabling goals with three ARA goals: High Performance Organization, Enabling Process Improvement Using FAA's Integrated Capability Maturity Model (iCMM), and Major Procurement Program Goals.

## ⑥ High Performance Organization

### **In support of FAA's enabling goals and strategies, ARA will:**

By the end of FY 2005, demonstrate characteristics of a world class organization in the areas of model work environment, business excellence, and strategic focus. ARA will:

- More closely align ARA's workforce with the National Civilian Labor Force (NCLF) in ARA's professional, technical, and engineering categories.
- Achieve ARA culture survey scores similar to those of benchmark organizations.
- Demonstrate that 95% of applicable ARA individual performance plans are results-based and linked to organizational performance goals.

### **Progress toward this performance goal will be measured by:**

- Comparison of ARA workforce representation data with NCLF

representation data in the target categories.

- Scores on the annual ARA culture survey.
- An evaluation of individual performance plans relative to established criteria.

### **The strategies ARA will pursue to accomplish this goal include:**

- Create a more productive and healthy work place by implementing the ARA Model Work Environment Plan.
- Improve ARA's ability to manage costs and performance by implementing the ARA portion of the agency's cost accounting system.
- Address workforce development needs by implementing Intellectual Capital Investment Plan priorities.
- Strengthen and foster the inclusion of human resource management reforms into the ARA culture.

## **⑦ Enabling Process Improvement Using the FAA-iCMM**

**In support of FAA's enabling goals and strategies, ARA will:**

Institutionalize mature lifecycle processes that enable high quality solutions to Agency and user needs, predictable cost and schedule, and increasing productivity. To accomplish this:

- Seventy-five percent of selected product teams will achieve FAA-integrated Capability Maturity Model (FAA-iCMM) maturity level 2 by December 1999.
- Seventy-five percent of (newly) selected ARA/ATS organizations/teams will achieve FAA-iCMM maturity level 2 within 18 months of start.
- ARA and ATS will achieve capability level 3 in selected process areas within 24 months from achieving maturity level 2 status.
- Selected ARA/ATS organizations/teams will achieve capability level 2 in process areas other than those that are staged at maturity level 2..

**Progress toward this performance goal will be measured by:**

- Percentage of teams selected in FY 98 achieving maturity level 2 by December 1999.
- Changes in cost and schedule predictability, quality, and productivity attributable to process improvement.

**The strategies ARA will pursue to accomplish this goal include:**

- Use the Integrated Process Group (iPG) to manage the process improvement effort.
- Develop and propose criteria for ARA/ATS to select new process improvement initiatives.
- Devise a mechanism to visibly demonstrate the results and benefits of this effort.

## ⑧ Major Procurement Program Goals

### **In support of FAA's enabling goals and strategies, ARA will:**

Achieve the annual FAA-wide major procurement program goals (MPPG) established for Fiscal Years 2000-2004. For fiscal year ending September 30, 2000 achieve the following program goals:

At the prime contract level (percent of total dollars awarded):

- Awards to small businesses (SB's) 25%.
- Awards to socially and economically disadvantaged businesses (SEDB's) 10%.
- Awards to small disadvantaged businesses (SDB's) 5%.
- Awards to women-owned business (WOB's) 5%.

At the subcontract level (percent of planned subcontracting dollars awarded to prime contractors):

- Subcontract awards to SB's 45%.
- Subcontract awards to SDB's 10%.
- Subcontract awards to WOB's 5%.

### **Progress toward this performance goal will be measured by:**

- Percent of total procurement obligations awarded to SB's, SEDB's, SDB's, and WOB's at the prime contract level.
- Percent of total procurement obligations awarded to SB's, SDB's, and WOB's at the subcontract level.

### **The strategies ARA will pursue to accomplish this goal include:**

- Maintain the number of procurements awarded under the pilot Mentor-Protégé Program.
- Increase the number of FAA decision-makers who have SB's, SEDB's, and WOB's contracting and subcontracting goals in their personal performance plan and standards.
- Provide educational opportunities within the FAA with respect to Small Business Utilization Program policy and guidance.
- Increase the total number of sampled procurements over \$100 thousand that are coordinated with the appropriate Small Business Office.
- Maintain the total number of outreach events to DOT and its modes and the small business community (including WOB's, SEDB's, SDB's).

## ABBREVIATIONS/ACRONYMS

AMS	Acquisition Management System
ARA	Office of Research and Acquisitions
ARAMT	Office of Research and Acquisitions Management Team
ATS	Air Traffic Services
DOD	Department of Defense
DOT	Department of Transportation
F&E	Facilities and Equipment
FAA	Federal Aviation Administration
FOB	Federal Office Building
FY	Fiscal Year
GPS	Global Positioning System
iCMM	FAA's Integrated Capability Maturity Model
IPDS	Integrated Product Development System
IPG	Integrated Process Group
IPT's	Integrated Product Teams
ISM	Integrated Schedule Management
ISS	Information System Security
IT	Information Technology
JRC	Joint Resource Council
MPPG	Major Procurement Program Goals
NAS	National Airspace System
NCLF	National Civilian Labor Force
OPT	Organizational Performance Target
R&D	Research and Development
R,E&D	Research, Engineering, and Development
SB's	Small Business
SDB's	Small Disadvantaged Business
SEDB's	Socially and Economically Disadvantaged Businesses
WOB's	Woman-Owned Business

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